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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/762,863 | 05/02/2001 | William B. Euler | 4463 | 1093 |

7590 03/26/2004

Richard L Stevens
Samuels Gauthier & Stevens
Suite 3300
225 Franklin Street
Boston, MA 02110

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| EXAMINER |
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LEE, HWA S

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| ART UNIT | PAPER NUMBER |
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2877

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/762,863

Applicant(s)

EULER ET AL.

Examiner

Andrew H. Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 9-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrenk et al (US 4,937,134).

Schrenk et al (Schrenk hereinafter) show an optical pressure sensor (column 6, lines 50+) comprising:

a first layer (column 1, lines 55+) of polymeric material having a first refractive index;

a second layer of polymeric material having a second refractive index which second refractive index is distinct from the first refractive index, light energy communicates with the sensor, when a strain is applied to the sensor, the light energy is partly absorbed and the change in light energy correlates to the strain applied.

Schrenk does not expressly show a support, however, Schrenk shows a skin layer to support and protect the polymeric layers and furthermore one of ordinary skill in the art would have used a support in order to hold or attach the polymeric layers to a sample ("laminated to sample", column 6/line 63), since the sensor is not freely floating in space.

As for the sensor having a gage factor of at least 100, the phrase does not define any structural limitation, but rather claims the achievement of the invention, thus the phrase has not be given any patentable weight.

As for **claim 2**, Schrenk teaches that there are a plurality of alternating first and second layers.

As for **claims 3-6**, Schrenk teaches that any polymer optical conductors can be used including polyimide, polypropylene, and polyester, all having refractive indices of about 1.4 to 1.7 and the time of the invention, one ordinary skill in the art would have used the claimed materials since the materials are well known in the art as having optical conducting properties.

As for **claim 7**, Schrenk shows the films to be about 1 to 20 microns since Schrenk shows that the film can be 0.5 microns.

As for **claim 8**, Schrenk shows a spectrometer (column 6, line 65) measuring changes in the light energy and would thus inherently have a means for contacting the sensor with light energy.

Allowable Subject Matter

3. **Claims 9-16** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

a. As for claims 9-12, the prior art take alone or in combination, fail to show or to suggest an interferometric strain gage sensor comprising of all the elements as presently claimed wherein the sensor is a passive sensor.

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b. As for claims 13-16, the prior art take alone or in combination, fail to show or to suggest an interferometric strain gage sensor comprising of all the elements as presently claimed wherein the sensor further comprises a tube-like support for the first and second layers.

Papers related to this application may be submitted to Technology Center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the PTO Fax Center located in CP4-4C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Center number is 703-872-9306 for regular communications and for After Final communications.

If the Applicant wishes to send a Fax dealing with either a Proposed Amendment or for discussion for a phone interview then the fax should:

a) Contain either the statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax Cover Sheet; and

b) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Hwa Lee whose telephone number is (571) 272-2419. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415.



Andrew Lee
Patent Examiner
Art Unit 2877

March 12, 2004/ahl